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ABSTRACT

On the surface, educational tracking may seem like a useful tool for allowing students to work at their own pace, and to avoid discouraging competition, but abuses of the tracking idea have arisen through biased placement practices that have denied equal access to education for minority students. The articles in this issue explore a number of concerns related to tracking: (1) "Tracking Denies Equal Access" (Percy Bates); (2) "Tracking Perpetuates the Class System in the United States of America" (Norma Barquet); (3) "Excellence and Equity: What Research Says about Tracking" (Norma Barquet); (4) "Race, Ability Grouping, and the Law in American Education" (Chuck Vergon); (5) "The Educational Status of National Origin Students: On an Invisible Track" (Martha A. Adler); (6) "Tracking and Gender" (Eleanor Linn); (7) "The Checklist: Assessing the Tracking Practices in Your School" (Norma Barquet and Eleanor Linn); (8) "Special Education: A Changing System" (Judith L. Greenbaum); (9) "Cooperative Learning: An Alternative to Tracking" (Tasha Lebow); (10) "Untracking High School Mathematics" (Eleanor Linn); (11) "Tracks and Resources: Separate and Unequal" (Ted Wilson); and (12) "Recommended Resources for Untracking Schools" (annotated list of 40 resources) (Eleanor Linn and Ted Wilson). References follow the articles. (SLD)

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Beyond Tracking

Tracking Denies Equal Access

by Percy Bates, Director

Old soldiers never die, it has been said, but just fade away. Tracking is an old educational practice that has never died and refuses to fade away. We seem to be inextricably tied to the idea of grouping students by ability in some form or another. There is no denying that not everyone develops at the same rate, but just because there are fast runners and slow runners, must we create fast groups and slow groups?

We are all familiar with elementary school groupings by the names of birds or animals, but this procedure did not fool anyone, not even the students. In fact, the students seemed to know which group or track they were in no matter what it was called.

On the surface, tracking may seem to be a useful tool for allowing students to work at their own pace and to avoid discouraging competition between the fast runners and the slow runners. Tracking supposedly allows us to meet individual needs and differences in the school setting.

> Just because there are fast runners and slow runners, must we create fast groups and slow groups?

Courtesy of Sharon E. Sutton, Urban Network, University of Michigan

To accept tracking as a useful educational tool, however, we must be assured that everyone will arrive at their proper place, i.e., all those who qualify for the upper track will get there, and those who qualify for the lower track will likewise find their way there also. This would make tracking an equal opportunity system that would meet or at least attend to each child's educational needs.

The downfall of tracking did not come because it was inherently wrong or bad for children. Tracking fell into disrepute through biased placement practices that denied equal access. Minority students who qualified for the upper track did not get placed there but instead found themselves in the lower track, whether they

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Tracking Denies Equal Access

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belonged there or not.

Such systematic discrimination raises the issue of equal access and makes tracking not only unfair but illegal. Some schools have eliminated tracking, but it continues in most schools in one form or another. Unlike the old soldier, tracking refuses to fade away, so we have decided to revisit the topic in this issue of *Equity Coalition*.

Norma Barquet argues that tracking perpetuates the class system by developing upper and lower tracks. Poor and minority students are sorted into the lower tracks, aggravating their already lowered self concepts. Her review of the research on tracking lists the damage this practice does to students.

Chuck Vergon examines the law on race and ability grouping, and he delineates when the courts are likely to intervene and when they are not.

Martha Adler's article looks at national origin students and outlines their disadvantagement in the current school tracking structure.

Eleanor Linn looks at gender and tracking and suggests that boys are more apt to be in the prestigious classes. She indicates that both boys and girls receive less than they should in tracked school settings. Her other article shows that untracking high school math teaches life-long problem solving skills to all students, prepares more students to succeed on college admission tests, and is well worth the trouble of changing the traditional math curriculum.

Judith Greenbaum shows that special education is a low-level track that has not benefited students with disabilities, a lack of success that led to the push to place students with disabilities in regular classes.

Tasha Lebow looks at cooperative learning as an alternative to tracking and describes its benefits to social development and augmented self esteem.

Ted Wilson looks at the allocation of financial and human resources in tracking systems and finds that upper-track students often get more resources and more skilled teachers than lower-track students, so that the rich get richer.

Perhaps because ability grouping and tracking seem so natural, they persist in our schools. We hope the articles in this issue alert you to the harm these educational practices do to our students and help you develop more equitable alternatives. ❖

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Tracking Perpetuates the Class System In the United States of America

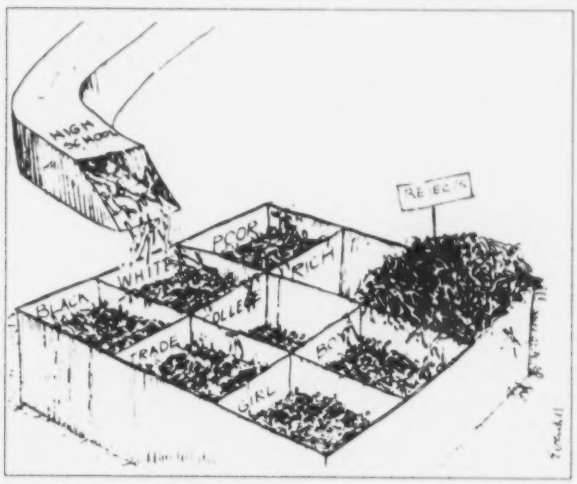
by Norma Barquet, Associate Director for National Origin Equity

THE ROOTS OF universal education, or public education as we know it in the United States today, can be traced to the "common schools" that were developed during the earlier part of the 19th Century. These elementary schools which were established in the more affluent parts of New England and the Mid-Atlantic states were developed as a result of a growing demand for education that would be accessible to all citizens of a relatively new democracy (Oakes, 1985).

The mission of these public schools was to develop moral, responsible, and educated citizens. And unlike the private schools that preceded them, this education was to be financially supported and controlled by the people. These were some of the fundamental democratic principles under which public education was created in this country (Cremin, 1964).

Education was seen as a way to increase opportunity, social progress, and mobility among the new generations. By 1852 Massachusetts had passed the first compulsory education law and by the latter part of the century more than twenty five states were enforcing these laws (Oakes, 1985).

But by the turn of the century, a new type of immigration from southern and eastern Europe had begun.



Drawing by Coby Everdell, in Just Schools, *Institute for Southern Studies, Chapel Hill, NC, 1979*

The numbers of students of diverse racial, cultural, linguistic, and religious backgrounds attending public schools increased so rapidly that schools found it increasingly difficult to deal with the human diversity in their classroom. The social climate of the times was ripe for a less inclusive and less democratic educational philosophy to flourish.

The struggle for educational equity during those formative years was a critical point in the history of public education in the United States. As early as 1892 attempts where being made to deal with the diversity of students and the expectations of higher education institutions. The Committee of Ten on Secondary Studies of the National Education Association was formed to make recommendations on curriculum and admission standards for higher education. In addressing the inequities in the educational system of the times, Charles Eliot, president of Harvard University and chair of that committee, said, in words which are still relevant today:

> It is a curious fact that we Americans habitually underestimate the capacity of pupils at almost every stage of education. . . . It seems to me probable that the proportion of grammar school children incapable of pursuing geometry, algebra, and a foreign language would turn out to be much smaller than we now imagine (Oakes, 1985, p.18).

Unfortunately, Eliot's philosophy did not prevail in the educational reforms at the turn of the century. Despite visionaries such as Eliot who believed in the inherent capacity of human beings to learn, others adhered to the then popular "social Darwinism" theory—that children from lower social classes were inherently inferior as to their social, moral, and intellectual abilities. Hence, a different type of curriculum and pedagogy was developed and institutionalized to educate the children of the poor and those who were ethnically and racially different from the white, Anglo-Saxon, Protestant power structure.

History took a different and unfortunate course. The original philosophy and mission of the common schools of the early 1800s had the potential to make the American Dream a reality for all children regardless of their religious, cultural, racial, or ethnic backgrounds. Had educational equity prevailed maybe we

would have today fewer inequalities in our society. We might see more people of color participate fully in the still predominantly white Anglo-Saxon social structures. We might also be more aware of their contributions to this newly formed democratic society. And we would have lived up to the expectations etched on the Statue of Liberty in New York harbor by helping all immigrants break the cycle of poverty and oppression which many were subjected to in their original countries.

Instead, education became a mechanism for promoting social class stratification and maintaining the accompanying system of oppression. Jeannie Oakes, a leading researcher in the area of tracking, writes:

> Social Darwinism had provided the 'scientific' justification for the schools to treat the children of various groups differently. The Americanization movement provided much of the content of the schooling to be offered the children of the poor and immigrant. It was left to American industry to provide the form this new kind of education would take (Oakes, 1985, p. 27).

Schools became the place where students would be sorted and prepared to meet the socio-economic expectations of society. Thus, tracking and ability grouping were instituted as a response to the social pressures placed on schools in the early 1900s as a result of four historical events: (1) the influx of poor rural families into the cities, (2) the numbers of new immigrants from eastern and southern Europe, (3) the enforcement of universal education, and (4) the institution of child-labor laws (Oakes, 1985).

Today, tracking and ability grouping are based on some of the same assumptions that motivated their institutionalization in the early part of this century; but also in part from vestiges of an antiquated system that has not been re-examined. For, despite numerous studies dealing with ability grouping which contradict commonly held assumptions regarding its benefits, tracking continues to be a widely used practice in our public education system (Goodlad in Foreword to Oakes, 1985).

Definition of Tracking

So, what constitutes tracking? Generally speaking, tracking is the sorting of students into categories for the purpose of instruction (Oakes, p. 3). Tracking differs from school to school since the classification of students can be based on various sets of criteria. In most cases, however, students are sorted and placed according to one or several of the following criteria: (1) their overall achievement or ability on standardized tests, i.e., high, average, or low ability; (2) their projected future employment, most often determined by the school and based on parent's socio-economic status, i.e., vocational, general or academic training; (3) specific areas where they are found to be "gifted," for example, high in math but average in English (Oakes, 1985.)

Depending on their grade, students are usually identified by either a teacher or a counselor as needing remedial, regular, or accelerated classes. In some schools, primarily at the elementary level, parents and students themselves can request to be considered for participation in such programs or courses.

Students are often tested with instruments that claim to measure IQ. Other cognitive and academic skills such as reading comprehension, vocabulary recognition, problem solving and mathematical computation are also measured. The results are then shared with students, and often made public, before they are assigned to these special classes or programs according to the established placement criteria. Students remain in these tracks for weeks, months, or years. The social and academic effects of ability grouping differ according to its intent, its permanence, and its flexibility.

The tracking practices addressed in this article are those which, for the most part, make assumptions about the abilities of students, separate them according to those assumptions, differentiate in the quality and quantity of instructions for students in the different tracks and offer little if any flexibility for student choice or mobility within the spectrum of the tracking system.

The central equity issue regarding tracking and ability grouping is that a disparity exists between the quantity and quality of education in the high track and the low track. Studies document, for instance, that students in the high track often have the most motivated and best trained teachers; and that they learn in smaller classrooms with better materials. These students also have higher expectations placed on them by their teachers. Their assignments often include creative writing and open-ended research. Their opinions are solicited and valued, and they are taught to be critical thinkers.

By the very nature of how they are selected, what they are taught, by whom, when, where, and how, these students enjoy greater opportunities and higher status throughout their educational lives than their less fortunate peers.

Students in these classes learn classical and contemporary literature and mathematical concepts such as probability and statistics—what Jeannie Oakes refers to as "high-status knowledge." In fact, the content of high-track classes is based on the knowledge required for

success in middle- and upper-class social settings.

In contrast, students in the low track are expected to learn more slowly and at the lower levels of Bloom's taxonomy: knowledge, comprehension, and application. They learn English performing less demanding and interesting activities such as memorizing vocabulary, writing disconnected sentences, filling in the blanks, and completing workbooks. The learning of mathematics, for instance, is reduced to activities that require basic computation and the memorization of arithmetic facts.

The types of relationships and social interactions between students in the different tracks is also significantly different. In high-track classes teachers and students trust each other more and more time is spent on teaching and learning. This is consistent with McDermott's findings in his study of numerous classrooms (1977). That is, in classrooms in which there is a positive and trusting climate, students learn more than in low-track classes where teachers spend a great deal of time dealing with classroom management and discipline. Thus the socialization of children that takes place in tracked educational systems resembles the patterns of relationship among the classes in the general society.

Samuel Bowles and Herbert Gintis, in addressing these inequities of the public education system, in their book *Schooling in Capitalist America* (1976), noted that schools help condition "the self-concepts, aspirations, and social class identifications of individuals to the requirements of the division of labor." Since they are often labeled and treated by the school as less capable, less worthy, and, ultimately as a low-status group, students in the lower track often act bored and disinterested—as if school were only a place to "kill" time. The outcomes for these students are a lower self-concept, less achievement, and lower aspirations (Oakes, 1985).

> A disparity exists between the quantity and quality of education in the high track and the low track.

Consequences of Tracking

It is not surprising, then, that the attitudes that students in the lower tracks develop about themselves and about schooling are quite different from those of their peers in the higher tracks. For those in the lower tracks the effect of schooling can be detrimental.

As a result of these and other similar placement practices, many poor and immigrant children drop out of school. The shame and psychological damage from those negative experiences remain with them for a lifetime. And, while in the past these children could work in unskilled jobs in the farms and industries of this country, today their only option is to become a part of the growing underclass of our society.

By denying them access to high quality education, lowering both our and their academic expectations, and giving differentiated treatment to students in the lower tracks—who are for the most part the poor, girls, and members of racial/ethnic minorities—educators help perpetuate the socio-economic stratification of our society. Other articles in this issue address more specifically some of the race, gender, and national origin implications of tracking.

Tracking has been the way we have done business in schools for more than 70 years. Today, it remains, for the most part, an unexamined tradition in education, for despite substantial evidence that tracking does not accomplish what it intends to do, tracking remains an integral part of the culture of schools.

While it is difficult to untrack schools, it is a challenge that our public schools must accept in order to reverse the achievement gap between poor and minority students and the more fortunate and affluent children in our society. In *Pedagogy of the Oppressed* ,Paulo Freire (1974) describes what he calls "libertarian education":

> The solution is not to 'integrate' them [the oppressed] into the structure of oppression, but to transform that structure so that they can become 'beings for themselves' (p 61).

In a democracy, the goal of public "universal" education should be precisely that—to enable people to free themselves from all forms of oppression. As parents, teachers, and citizens of the greatest democracy in the world we must redefine the mission of public education and continuously reevaluate the equity of its practices. Schools can either play a significant role in the elimination of social inequalities or help perpetuate an unjust class system in our society. ✥

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Excellence and Equity: What Research Says About Tracking

by Norma Barquet, Associate Director for National Origin Equity

IN THEIR STRUGGLE to achieve academic excellence, our public schools have in the last seventy years continued to sift and sort students as if quality of education could only be achieved at the expense of equity.

The unexamined assumptions that drive schools to deliberately control the access to unevenly distributed educational resources through their tracking policies and practices are basically three: (1) that intelligence is a specific set of abilities and behaviors that can be universally measured; (2) that intelligence is fixed by early childhood with little possibility to alter it in subsequent years; and (3) that learning is a locked in, step-by-step process of gathering information and developing cognitive intellectual skills (Oakes, Gamoran, and Page, 1992).

Among the strongest arguments offered by proponents of tracking is that ability grouping helps reduce the achievement gap between low- and high-achieving students by providing instruction that is geared to the students' ability levels. Homogeneous grouping, they also argue, helps create a classroom climate that protects the low achievers from feeling inferior to their high achieving peers, and the high achiever from having to slow down to accommodate their low-performing classmates.

Although these arguments appear logical to many well intended parents, teachers, and administrators, research in this area shows the results to be quite the opposite.

For, while some of the literature in this area points to some benefits of grouping and tracking, a great body of research seems to show that the disadvantages of the tracking system far outweigh the advantages.

According to some of the most recent research, tracking:

• **Does not equalize educational opportunities for diverse groups of students.** In fact, tracking increases the gap of educational opportunity among students, i.e., the quantity of time spent on learning and the quality of the teaching and learning they experience (Oakes, 1985).

• **Does not increase the efficiency of schools by maximizing learning opportunities for everyone.** Tracking results in an unfair and disproportionate placement of poor and minority students (Hispanic and Black) in low-ability and non-college-bound classes (Oakes, 1985, p. 91).

• **Does not meet individual needs.** Because grouping and tracking are assumed to result in more homogeneous classes, much is taken for granted regarding individual learning needs. The fact is that in classes larger than 20 students, a considerable variety in instructional strategies and educational resources are needed to meet individual learning needs (Goodlad in Foreword to Oakes, 1985, p. xii).

• **Does not divide students into neatly homogeneous groups.** Groups that are established based on IQ or measures of attainments to achieve homogeneity have been found to have significant variance in IQ and achievement (Goodlad in Foreword to Oakes, 1985).

• **Does not increase student learning.** Students who are not in the high track (about 60 percent) experience consistent educational disadvantages as a result of tracking. At the secondary level, tracking does not appear to raise achievement in the population as a whole, and it does not provide equal access to educational experiences that would result in higher academic achievement (Gamoran, 1990, p. 163-164).

18th C. Icelandic wood carving, Alan & Gill Bridgewater, **Traditional & Folk Designs,** *Search Press*

What tracking does, in fact, seems to be quite the opposite. Tracking tends to:

• **Widen the achievement gap**. Studies comparing achievement in high and low groups at the elementary level have shown that the gap between students in the high groups and those in the low groups tends to widen over the course of an academic year (Gamoran, 1986; Sorensen & Hallinan, 1986).

Research at the secondary level shows the same trend, with students in the college-prep courses gaining more than those not enrolled in those programs (For a review of the literature on elementary and secondary grouping see Oakes, Gamoran, and Page, 1992).

• **Retard the academic progress of many students—especially those in the average and low groups.** A study of British schools showed that grouping was beneficial for students in the high track, that it seemed to be neutral for those in the middle group, and that it was detrimental for students in the low groups (Kerckhoff, 1986). A simulation study by Gamoran and Mare (1989) using data from schools in the U.S. also concluded that students in non-college bound courses would have had higher achievement scores if they had enrolled in the college-prep track.

• **Foster low self-esteem among these same students.** Oakes found in her study of tracking in 25 high schools that one student attitude highly related to tracking was their view of themselves (Oakes, 1985, p.143).

• **Lower the aspirations of students who are not in the top groups**. Tracking legitimizes social inequalities by tailoring "the self-concepts, aspirations, and social class identifications of individuals to the requirements of the social division of labor" (Bowles and Gintis, 1976, p.129). In other words, while rich and middle class students learn to become managers, bosses, and leaders, through the process and content of the education they receive, poor students are in the same way prepared to be laborers, low-level employees, and followers.

• **Promote school misbehavior and dropping out**. Students in the lower tracks often resist schooling or "mental" work, defy the rules of school, and end up leaving school to do low-level "manual" types of work. This theory is consistent with the studies by Paul Willis (1977) on social reproduction which suggest that the resistance behaviors of students in the low track are a part of their preparation to become low-level workers in society (Oakes, 1985, p. 120).

• **Separates students along socio-economic lines, separating rich from poor, whites from nonwhites.** This is the most inequitable outcome of tracking. As Oakes writes: "The end result is that poor and minority children are found far more often than others in the bottom tracks. And, once there, they are likely to suffer far more negative consequences of schooling than are their more fortunate peers. This much we know" (Oakes, 1985, p. 40).

Unfortunately the research and literature on tracking deals very little with the implications of tracking on national origin, language-minority students. We know from observation, however, that language-minority students are systematically excluded from participating in higher-level classes and gifted and talented programs, by the process used for student selection. In addition to being impacted by factors such as race, ethnicity, and socio-economic status, their lack of English language proficiency is also a barrier to their participation in many of these special and accelerated programs.

See Martha Adler's article in this issue of *Equity Coalition* for more information on this topic. For additional resources on solving the problem of grouping and tracking, see pp. 30-31 of this issue.

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Race, Ability Grouping, and the Law in American Education

Chuck Vergon, Law and Policy Advisor

Grouping students by ability for purposes of instruction has been a source of debate in American public education almost since the inception of the practice in the late 1860s. Over the past 130 years ability grouping has experienced various levels of support and adoption. In the first quarter of this century, for instance, ability grouping experienced a rise in popularity that coincided with the universal schooling movement, the attendant increase in the diversity of students, and the introduction of intelligence testing and scientific management strategies into public education. This period of growth was followed by a decline in popularity during the 1930s and 1940s as the progressive education movement questioned not only the effectiveness of grouping but also its appropriateness in a democratic society.

By the late 1950s, however, ability grouping experienced a resurgence as the nation rallied to match the technological accomplishments of the Russians in the post-sputnik era. It was during this same period, of course, that a revolution was taking place in race and schooling policy in America, a revolution that was throwing white and black students together, notwithstanding the grossly different public educational opportunities each group had been afforded historically and widely-held stereotypes regarding their relative academic abilities. From at least this historical juncture, race and grouping practices have been inescapably intertwined.

The racial overlay and equity implications of grouping practices have not receded appreciably during the 35 year, post-Brown era. Research findings during this period have suggested not only that ability grouping tends to segregate students along racial and socio-economic lines, but that those channelled into lower classes are frequently provided a substantially different curriculum and set of learning experiences— thereby locking in lifelong inequality. Like most other educational controversies over the past quarter century, the issue of student grouping has been as likely to be tested in the courtroom as the classroom. Some of this litigation has yielded helpful principles for educators to consider as they grapple with fostering excellence without sacrificing equity.

Ability grouping is not unlawful per se. It may be employed in single race school districts provided its form and application are neither arbitrary nor capricious. In such settings, school officials need only articulate a rational basis for electing to pursue this, or virtually any other, pedagogical practice. In racially diverse school districts, however, policy decisions may be subjected to closer judicial scrutiny and school officials may bear a greater burden of justification when resorting to ability grouping. In such settings, ability grouping may be unconstitutional under certain circumstances or when practiced in a particular manner.

For instance, school districts under a 14th Amendment legal obligation to desegregate may not employ ability grouping that results in significant levels of building, classroom, or course segregation until the district has been declared unitary and can demonstrate that group assignments either do not reflect the present results of past segregation or that the assignments in question will remedy such results through better educational opportunities. Districts with no prior history of segregation or discrimination may also have grouping practices challenged under Title VI of the 1964 Civil Rights Act, when they result in segregation and the district cannot demonstrate that they have selected the least segregative instructional approach from among equally effective educational alternatives.

> In racially diverse school districts, policy decisions may be subjected to closer judicial scrutiny.

In addition to the lines of cases and administrative law rulings from which these broad principles emerge, numerous other cases have scrutinized various grouping policies and practices. The outcomes of these cases have been varied, frequently turning on consideration of factors such as the nature and scope of the grouping, the manner and consistency with which it is implemented, the intentions of the implementors in adopting it, its impact on protected populations, and its efficacy in obtaining desirable educational outcomes.

Based on this body of law, school districts must carefully craft policies and procedures governing the grouping of students for instruction, taking into account a multiplicity of factors, including the following:

- Purpose of grouping
- Number and differentiation of groups
- Clarity, appropriateness, number, and validity of criteria
- Uniformity and reliability of assessment procedures
- Level of segregation and degree of separation
- Scope (single versus blocks of classes) and duration of grouping
- Availability, quality, and effectiveness of remedial services
- Nature and frequency of re-evaluation
- Degree of actual student mobility

Relying on these considerations, the law has demonstrated its willingness, albeit reluctantly, to intervene in instructional grouping controversies where racial factors and effects are interjected. While in some of these instances it has refrained from disturbing existing practices, in many it has required adjustments, and in others the outright abolishment of grouping practices for at least a limited period of time. Absent these contextual and racial factors, however, the law is unlikely to provide a major lever for reform of grouping policies and practices in the majority of the nation's school districts and buildings. It is equally true, however, that the law will not impede educators and policymakers from re-examining and even abandoning ability grouping where they deem it educationally appropriate to do so. In this latter instance, they must simply provide a rational educational explanation for the reduction or elimination of traditional ability grouping practices. Such a rational basis clearly includes equalizing educational opportunities and outcomes for all students, including those from low socio-economic as well as racial groups.

Whether required or simply permitted by the law, bringing about change in instructional grouping practices represents a formidable challenge. New policies must be formulated; old organizational norms transformed; radically different departmental values, teaching assignments, and course scheduling negotiated; and revolutionary teaching strategies employed on a far broader basis than is currently the case. Given the growing body of contemporary research calling into question the educational efficacy of ability grouping, the challenge of change may be at hand, demanding a place on the educational agenda of local school districts in the interests of both equity and excellence. ❖

The table of cases below illustrates the legal issues associated with instructional grouping in racially diverse school districts. It also includes other cases of general significance in desegregation and/or student classification representative of the universe of decided cases and should help school district officials formulate policies.

Illustrative Cases

Adams v. Rankin County Board of Education, 484 F.2d 324 (5th Cir. 1973), aff'd, 456 F.2d 1285 (1972).

Anderson v. Banks, 520 F.Supp. 472 (S.D. Ga, 1981), later proceeding, Anderson v. Banks, 540 F.Supp. 761 (S.D. Ga. 1982), app. dis., Johnson v. Sikes, 730 F.2d 644 (11th Cir. 1984).

Andrews v. City of Monroe, 730 F.2d 1050 (4th Cir. 1984).

Berry v. School District of Benton Harbor, unreported opinion, aff'd 505 F.2d 238 (6th Cir. 1974).

Board of Education v. Rowley, 458 U.S. 176 (1982).

Brookhart v. Illinois State Board of Education, 697 F.2d 179 (7th Cir. 1983).

Brown v. Board of Education (I), 347 U.S. 483 (1954).

Brown v. Board of Education (II), 349 U.S. 294 (1955).

Burlington School Committee v. Department of Education of Massachusetts, 105 S.Ct. 1996 (1985).

Castaneda v. Pickard, 648 F.2d 989 (5th Cir. 1981) and 781 F.2d 456 (5th Cir. 1986).

Debra P. v. Turlington, 730 F/2d 1405 (11th Cir. 1973).

Diana v. State Board of Education, C.A. No. C-70 37 RFN (N.D. Cal., filed February 3, 1970).

Gaines ex el Missouri v. Canada, 305 U.S. 337 (1938).

Georgia NAACP v. State of Georgia, 570 F.Supp. 314 (S.D. Ga. 1983), aff'd in part and reversed in part, 775 F.2d 1403 (11th Cir. 1985).

Hart v. Community School Board of Brooklyn, 383 F.Supp. 699 (E.D. N.Y. 1974).

Hobson v. Hansen, 269 F.Supp. 401 (D.D.C. 1967), aff'd sub nom., Smuck V. Hobson, 408 F.2d 175 (D.C. Cir. 1969) (en banc).

Keyes v. School District #1, Denver, 413 U.S. 189 (1973).

Larry P. v. Riles, 495 F.Supp. 926 (N.D. Cal. 1979), aff'd in part, reversed in part, 793 F.2d 969 (9th Cir. 1984).

McNeal v. Tate County School District, 508 F.2d 1017 (5th Cir. 1975).

Mississippi University for Women v. Hogan, 458 U.S. 718 (1982).

Montgomery v. Starkville Mun. Separate School Dist., 665 F.Supp. 487 (N.D. Miss. 1987).

Morales v. Shannon, 516 F.2d 411 (5th Cir. 1975), cert. denied, 423 U.S. 1034.

Moses v. Washington Parish School Board, 330 F.Supp. 1340 (E.D. La. 1971).

Oliver v. Kalamazoo, 640 F.2d 782 (6th Cir. 1980).

Plyler v. Doe, 457 U.S. 202 (1982).

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Rodriquez v. San Antonio School District, 411 U.S. 1 (1971).

Shuttlesworth, v. Birmingham Board of Education, 162 F.Supp. 372 (N.D. Ala. 1958), aff'd 358 U.S. 101 (1959).

Singleton v. Jackson Municipal Separate School District, 419 F.2d 1211 (5th Cir. 1969), rev'd in part on other grounds, 396 U.S. 290 (1970).

Smith v. Dallas City Board of Education, 480 F.Supp. 1324 (S.D. Ala. 1979).

Student Doe v. Com. of Pennsylvania, 593 F.Supp. 54 (E.D. Pa. 1984).

Student Roe v. Com. of Pennsylvania, 638 F.Supp. 929 (E.D. Pa. 1986), aff'd without opinion, 813 F.2d 398 (3rd Cir. 1987), cert. denied, 107 S.Ct. 3265 (U.S. 1987).

Swann v. Charlotte-Mecklenburg Board of Education, 402 U.S. 1 (1971).

Swann v. Charlotte-Mecklenburg, 300 F.Supp. 1358 (N.D. Car. 1969).

United States v. Gardsen County School District, 572 F.2d 1049 (5th Cir. 1978).

United States v. Jefferson County School Board, 380 F.2d 385 (5th Cir. 1967).

United States v. Sunflower County School District, 430 F.2d 839 (5th Cir. 1970).

United States v. Tunica County School District, 421 F.2d 1237 (5th Cir. 1970).

United States v. Yonkers Bd. of Educ., 624 F.Supp. 1276 (S.D. N.Y. 1985).

Vaughns v. Board of Education of Prince George's County, 574 F.Supp. 1280, aff'd in part and reversed in part, 758 F.2d 983 (4th Cir. 1985).

Village of Arlington Hts. v. Metro Housing Corp., 429 U.S. 252 (1977).

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The Educational Status of National Origin Students: On an Invisible Track

by Martha A. Adler, Field Service Specialist

> Tracking fosters the *illusion* of meritocratic competition while in reality functioning as a "ranking" system that legitimates differences based on race, gender, and social power and locks students into positions of limited opportunity. Tracking thus perpetuates social class inequalities through selection and allocation procedures (McLaren, 1989:9).

McLaren makes a strong statement regarding the impact of tracking. However, he neglects to mention another "legitimate difference" among the children in our schools—one that is often ignored, hidden, or at most given slight mention: the "difference" of national origin. It would take more space than this article has to lay out all of the issues involved with national origin, which is itself a less than perfect term. Narrowly, it refers to those students who have been discriminated against because of their country of origin; however, the term also defines individuals by their first language and culture. Regardless of the context within which national origin is defined, it is disturbing that students with linguistic and/or cultural backgrounds different from mainstream English-speaking students are essentially absent from the research and literature on tracking.

Who are these so-called "national origin" students? They represent a wide variety of ethnic/linguistic/cultural groups and enrich our schools and society with their diversity. Ethnically they may be Navajo, Chinese, Hmong, Chaldean, Mexican, or Russian. They may have grown up in the United States or may have moved here from their home countries—either as immigrants or as temporary residents. Many have fled persecution and poverty in their homelands in search of a better life. Others, as temporary residents of the United States, fully expect to return home to their countries of origin—seasonally or permanently. However, a unifying trait of all national origin students is that they constitute a vibrant part of the fabric of American life, residing in cities, suburbs, and rural areas—some within enclaves, others isolated from their cultural and linguistic communities. Another trait that many national origin students share is that their English language abilities are not yet as proficient as those of native speakers. Many national origin minority students find themselves linguistically isolated and mainstreamed into English-only classrooms while others are placed in English as a second language (ESL) or bilingual classes. Unfortunately, the treatment these students receive is not all positive. Consider the following:

• "Only about one-third of the estimated 2.7 million limited English proficient [LEP] students aged 5 to 14 receive any form of special programming responsive to their linguistic needs" (U.S. Dept. of Education, 1984, in The National Coalition of Advocates for Students [NCAS], 1985: 16).
• "In 1980, only 10 percent of Hispanic children with limited English proficiency were in bilingual programs" (Zamora, in NCAS, 1985: 16).
• Studies conducted in urban high schools have revealed that dropout rates for Native Americans are as high as 85 percent (LaFrance in NCAS 1985: 17), and between 70-80 percent for Puerto Rican students (Calitis in NCAS, 1985: 16).
• "Thirty-five percent of the Hispanic students are systematically tracked into vocational education programs that do not provide up-to-date training. Forty percent of Hispanic students are slotted into general educational programs as opposed to academic programs" (Hispanic Policy Development Project 1984, in McLaren, 1989: 14).
• "About one-third of all Hispanics ages 16-24 were not enrolled in school and were not high school graduates in 1988" (U.S. Dept. of Education, 1989: xi).
• "American Indian and Hispanic dropouts [are] least likely [to complete high school]" (U.S. Dept. of Education, 1989: xiv).
• Although the connection to tracking is often not immediately clear, it is a fact that not all "students whose cultural and linguistic backgrounds are different from the dominant culture of the society . . . have full access to quality education" (NCAS, 1985: 9).

The most obvious concerns for national origin minority students can be reflected in what we can all agree is traditional tracking (vocational education, for example), but "invisible tracking" occurs for these students as well. National origin students whose linguistic/cultural backgrounds differ from their mainstream, English-speaking peers are caught in between in a system where this "invisible tracking" is directly related to their need to become English language proficient. This results when language minority students are ignored and not provided programming/instruction that promotes their bilingual talents. It can even occur in systems where students are provided with language support, be it ESL or bilingual, but where equity concerns are not addressed.

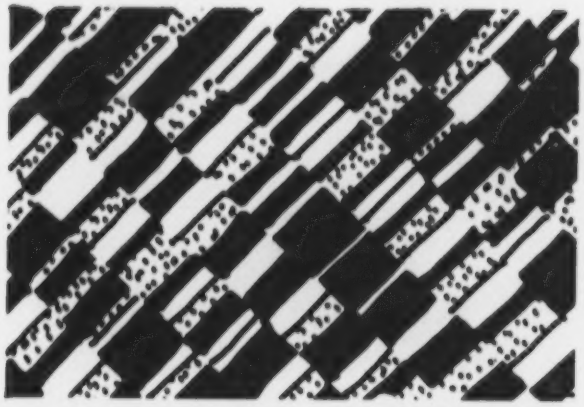
Significant among many factors contributing to the problem of invisibility is assessment. "For . . . 40 percent of all legal immigrants—those from Mexico, Central and South America, and the Caribbean—success is less often secured. These are the students most clearly devalued by intelligence tests that continue to be culturally and linguistically biased in favor of middle class Anglo-Saxon students" (McLaren, 1989:13).

Because language is the basis of assessment, LEP students are immediately disadvantaged. In spite of the fact that second language acquisition can take up to seven years for the average learner, many students are tested for placement and cognitive ability soon after their arrival in this country, when their English-language skills are often barely minimal and their experiences with United States culture lacking. Such practices can lead to the placement of LEP students with English-speaking students who have tested as low-ability, or placement in a vocational track based on nothing more than a lack of English language proficiency.

Even for students who are not new to the United States and who have a facility with conversational English, testing cannot appropriately assess their potential. LEP students who have a superficial facility with English do not necessarily comprehend deeper constructions and nuances that are required for formal situations, such as writing essays or taking placement tests. Duran (cited in Ascher, 1990) says the gap in language for national origin students is "a major contributor to the disproportionate numbers of Hispanic bilinguals diagnosed as 'mentally retarded' when cut-off scores are used on IQ tests." In addition, many serious violations against national origin minority students have been reported by the U.S. Commission on Civil Rights (1982); in one such case "linguistically-minority children were placed in the same school with mentally retarded children. . . classified as Specific Learning Disabled" (Suarez-Orozco, 1989:8). Although proficiency in language abilities, both written and oral, can be indicators of intelligence and/or ability, a lack of such cannot be considered as a deficit.

In addition to the misplacement of LEP students in lower-track programs, the assessment process can also contribute to the denial of services that some students might actually benefit from (programs such as those for the hearing impaired, for example). A typical scenario is one where the teacher-in-charge suspects a child is in need of diagnosis and makes a referral. The specialist, realizing that language may be a barrier to a valid assessment, sends the child back with the recommendation that testing take place after the child has learned English. In such a situation a gridlock occurs that does not allow anyone to serve the child.

Even when a language minority student is mainstreamed, his/her inability to use English well is often



19th C. *African textile*. *Alan & Gill Bridgewater*. **Traditional & Folk Designs.** *Search Press*

falsely assumed to reflect her/his academic potential. This results in practices, such as reducing the number of subjects a student studies, limiting the scope of material covered, or offering instructional materials below the student's grade level, which Wong-Filmore and Meyer (1992: 649) describe as a "steady diet of basic skills instruction in place of regular curriculum content" —in other words, "invisible" tracking.

For students not mainstreamed, ESL classes can be beneficial in that students are able to focus on their language skills in what is often a nurturing environment. However, such placement can also have the effect of appearing "remedial." If mainstream students do not understand the nature of the pull-out attention their LEP peers are receiving, there is risk that language minority students will be perceived as being in need of remediation. In fact, LEP students themselves may feel a sense of shame in that they have been separated from their English-speaking peers. Further aggravating such assumptions is the actual location of many ESL/bilingual classrooms, which are often relegated to remote areas of a school—needless to say sending a negative message not only to the LEP student but also to the rest of the school population. Suarez-Orozco (1989) states that such a practice can create an "us" versus "them" environment in the school; he describes the ESL program in his study as being "the school's own inner 'ghetto'" (83).

Because most ESL/bilingual programs are considered to be transitory, exit criteria become another area of concern. Orosco-Suarez reports a situation where students were kept in their ESL classes too long. "The Central Americans [in his study] were often kept in ESL classes against their wishes . . . regardless of their English level because there was no room for them in the regular English program" (103). However, more common than what Orosco-Suarez found is the practice of "early exit." Because of an emphasis placed on attaining proficiency in English as soon as possible for the movement of language minority students into mainstream classrooms, "quick exit" policies have been operationalized and have disadvantaged bilingual learners. Not only are students often exited before they are ready, but they and their peers also receive a hidden message that values the language and culture of the mainstream and devalues that of the language minority child.

For those involved with the teaching of and planning for national origin students, some facts should not be ignored. Most importantly, language cannot be learned effectively in isolation, nor can it be learned quickly. Unfortunately, the pull-out nature of many ESL/bilingual classes separates national origin students from their English-speaking peers not only physically, but socially and academically as well. Research has been clear in its findings with regard to curriculum content. When language instruction is separated from the content, the instruction is not very valuable.

Although the teacher is the dominant figure in most classrooms, she/he is not the only source for children to learn from, especially in the case of language. However, in many pull-out programs, the teacher becomes the only model for the LEP student to mimic. The rich opportunity to learn from all of one's peers is lost, for not only the LEP student but for the mainstream student as well. While LEP students may begin to open up and express themselves in their ESL/bilingual classrooms, they often remain passive and silent in their mainstream classes.

There is yet another barrier that the LEP student faces, one that is hidden even deeper than the "invisible tracking" that occurs with the best of intentions. This barrier is one of status accompanied by knowing a language other than English. Unfortunately, second language learning has yet to achieve high status within much of U.S. society. Often the most popular foreign languages in schools are those that are associated with societies that are seen to be economic and political peers of the United States. This is a barrier that needs to be dealt with.

In conclusion, research has been consistent in reporting that curriculum and instruction needs to be relevant to the lives of children; LEP students are no exception. *All* teachers, administrators, or anyone who works with children, need to value and understand the needs of *all* children. In order to achieve the equal and fair educational opportunities for national origin students,

those responsible for implementing their academic programs should consider the following recommendations:

• If testing and placement are unavoidable, **alternative assessment instruments must be considered.** In the case of LEP students there may be no appropriate measure of a student's ability. Waiting for the student to become proficient in English is not satisfactory. Be creative and learn to rely on a multiple of sources for assessing the academic needs of LEP students, such as getting life histories, obtaining samples of the students' home language, and communicating with the family and community agency sponsoring the student(s).

• Remember that **newly arrived national origin students may lack not only English language abilities but may also lack critical cultural information needed to take standardized tests**, such as IQ tests.

• **It is essential that language minority students receive the appropriate language support and programming to achieve school success.** In providing ESL/bilingual instruction for LEP students, establish entry and exit criteria that will assure optimum success. Also, consider the consequences of how ESL or bilingual programs are perceived by and interact with mainstream classrooms. **ESL and bilingual classes should be considered as integral and vital parts of the school**.

• **ESL or bilingual programs must share equally in resources allocated for mainstream classes.** Obvious considerations are those such as location or instructional resources, for example. ESL and bilingual classes should be located in rooms or buildings comparable to mainstream classes with access to the same quality of materials and supplies.

• **Communication among all who are responsible for the instruction of language minority students is essential.** At the very minimum, mainstream and ESL/bilingual teachers/staff should be provided opportunities for collaboration on instructional planning and implementation on a regular basis.

• **Question and, if necessary, challenge all referrals of national origin students to programs designated as remedial**. Monitor carefully where LEP students are being placed and by what criteria.

• Make sure that everyone who is involved with the education of national origin students shares the same commitment to excellence for each student. **Provide the necessary training for staff and teachers in order to understand what it means to be linguistically and/or culturally different in U.S. society.** In addition, school personnel should be representative of the school population, with a staff that is also bilingual.

• And, most importantly, take advantage of your good fortune to know national origin students and their families. They are as significant and relevant to the richness of our society as the generations of diverse groups of people who have formed our nation in the past. **Celebrate the diversity that national origin students bring to your school/district.**

It behooves each of us involved with the education of our youth to be aware of the issues for national origin students that may not contribute to their achieving equally with mainstream English-speaking students. National origin students need to be counted also; they cannot be left to the periphery of our concerns nor allowed to be placed on an "invisible track." ❖

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Tracking and Gender

by Eleanor Linn, Associate Director for Gender Equity

ALTHOUGH MOST educators deny that students are currently tracked by gender, the pervasiveness of gender segregation in American education should make us stop to examine this issue more closely.

Gender segregation is most blatantly evident in programs for pregnant and parenting teens, where all the students are female. Only slightly less segregated are vocational education programs, where young men predominate in skilled trade programs and young women predominate in cosmetology, child care, food services, health, and office occupations. Although gender segregation in high school math and science programs appears less severe in national statistics than segregation by race, ethnicity, and socio-economic status (see Figure 1), definite patterns of gender separation do still exist. We also find evidence of an over representation of boys in special education and in elementary school remedial and lower-level reading groups.

Gender segregation can, indeed, be called a form of tracking, for it leads to predictably less successful futures (academically and financially) for students who are assigned to programs that are perceived as being less valuable. It constitutes a needless division of students and is a current source of inequity that should be eliminated from our schools.

At the beginning of this century, gender segregation was formally encouraged by American educational policy, as a simultaneous element of the tracking system. Proponents claimed that children of different genders had different learning needs because their lives as adults would be quite different. Poor girls should be taught homemaking and female-dominated trades. Poor boys should learn skilled trades, such as carpentry and masonry. Affluent children were given more autonomy over their choice of courses, but affluent girls were expected to study humanities while affluent boys were more encouraged to study mathematics and science.

Given today's world in which all adults need to be wage earners, these distinctions simply do not make sense. Perpetuating such distinction in our schools can only result in preparing young people for economic and intellectual failure.

Preparation for Poverty

Take, for example, pull-out programs for pregnant and parenting teens. If they are mandatory, they have been ruled illegal, according to Title IX, but many schools continue to support them on a voluntary basis, claiming that a student can forgo her right to study higher-level mathematics and science, play on a school team, or become an apprentice in a skilled trade. In return she receives additional health education and emotional support. It should be possible for her to receive these very positive short-term benefits without her having to relinquish the other, more long-term benefits, which may well have a greater value in her future life.

In vocational education, the costs of gender

FIGURE 1

Percent of High School Graduates Taking Selected Courses in Mathematics and Science

	Male	Female	Gender Diff.	White	Black	Race Diff.	Hispanic	Ethnic Diff.
Algebra I	75.3	77.2	1.9	77.7	70.7	-7.0	73.1	-4.6
Geometry	61.2	61.7	.5	65.1	44.0	-21.1	40.2	-24.9
Calculus	7.7	4.7	-3.0	5.9	2.3	-3.6	3.6	-2.3
Remedial Math	26.7	23.2	3.5	20.6	46.5	25.9	42.5	21.9
Biology	87.0	89.6	2.6	89.2	86.2	-3.0	85.4	-3.8
Chemistry	45.9	43.7	-2.2	47.7	29.8	-17.9	29.4	-18.3
Physics	24.6	14.8	-10.8	20.9	10.1	-10.8	9.8	-11.1

The largest gender difference are found in the under-representation of girls in physics and over-representation of boys in remedial math. The largest race differences are found in the over-representation of African-American students in remedial math and their under-representation in geometry. The largest Hispanic enrollment differences are found in Hispanic students' under-representation in geometry and over-representation in remedial math. These data do not include placement of those students who failed to graduate.
Source: Kolstad and Thorne (1991).

segregation may be starker for young women. Graduates of predominantly male skilled trade programs may earn up to $30 an hour, yet the average hourly pay for graduates of predominately female office occupation programs is $4.57, for cosmetology programs $4.44, and for child care programs $3.99. Schools may be able to justify a diversity of wages among their graduates, but they cannot justify educating students for a life of poverty (Giese, 1990).

Preparation for Submissiveness

As in the case of pregnant and parenting programs, what appears to be a choice is actually an act of social bias, pressure and determinism. Girls from many cultural groups are taught to lower their expectations in order to avoid the chance of failure. They are often taught not to compete with men, not to appear more successful than a father, brother, or future husband. Parents, too, often prefer that their daughters enroll in lower status programs and occupations, rather than have them struggle and risk possible failure. By not teaching girls the virtues of ambition and persistence, we reinforce men's ability to dominate women and perpetuate women's seemingly voluntary submissiveness.

Similar dynamics come into play when students are given so-called open choices about academic course selection. Faced with the decision between a hard year in algebra and an easy year in pre-algebra, an A in earth science or a C in physics, girls, and particularly white and Hispanic girls, are more likely to choose or be pushed into the less challenging and less rewarding option (*How Schools Shortchange Girls*, 1992).

Replicating Anger and Alienation

At the other end of the educational spectrum, the opposite constellation of attitudes affects male development. Boys are more likely to be placed in remedial classes, to be referred for special education, or to repeat a year of school. Educators and parents may fear the emotional harm that such stigmatization does to girls, and in unspoken ways thus seek to protect girls in ways that are intended to make them better nurturers when they grow up. Educators have fewer qualms, however, about how stigmatizing programs may injure boys, thus reflecting how our society is less concerned about developing boys' interpersonal skills and their sense of caring. This lack of regard for boys' emotional development often makes them angry and alienated from school. They may develop technical skills at the cost of emotional ones, or they may become our most egregious failures, violent and unskilled men, whom we fear and have little ability to change.

As Judith Greenbaum discusses in her article on special education (see p. 18), special pull-out programs do more harm than good. We are certainly capable of providing added support for students with special needs, without incurring the stigmatization that is caused by tracking. We know what instructional strategies to use to create a successful untracked classroom. We know that a well-implemented, untracked program enhances everyone's learning, intellectually and socially. What we need to do is implement what we already know.

Where to Begin

In a school that is socio-economically, racially, or ethnically mixed, gender issues may seem inconsequential in comparison to issues of tracking related to race, ethnicity, and social class. But many schools in America are surprisingly homogeneous. Because of residential segregation, students are more likely to be enrolled in schools with others of the same race, ethnicity, or social class, than they are to be in a mixed environment. In such relatively homogeneous buildings, educators are thus more likely to be able to effect change in terms of gender equity than they are in terms of racial, ethnic, and class divisions, which may need to be rectified at the metropolitan, state, or national level.

A first step is to look at the distribution of girls and boys in your school. Chances are that boys predominate in both the most prestigious and most stigmatized classes, while girls cluster in the less-noticed middle. Consider using cooperative learning and complex instruction strategies with students in your school. Identify the academic and social skills that are important for all students to learn, and work toward creating a learning environment where all students are challenged and respected for their contribution to a community of learners.

Separation and tracking shortchanges both girls and boys. Our children need a wide range of academic and social skills for their success in the future. ❖

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The Checklist:

Assessing the Tracking Practices in your School

by Eleanor Linn and Norma Barquet

THIS informal survey is intended for a multicultural, gender-representative cross-section of your school community including teachers, students, administrators, parents and support staff. They should be involved in the survey planning process. Some questions will require gathering additional information. The results of this assessment should stimulate discussion on the status of tracking in your school.

Directions: Answer each question with: **Y** for Yes, **S** for Somewhat, **N** for No, and **D** for Don't Know or Doesn't Apply. Try to answer every question.

District Policy and School Culture

___ 1. Does your school district's policy establish a democratic view of education where all students regardless of socio-economic status, gender, race or ethnicity are expected to achieve high standards of social and academic performance?

___ 2. Has a survey of school culture or climate been undertaken to ensure that every student has the necessary personal and academic support to achieve the district's expectations?

School/Program/Classroom Organization

___ 3. Are all classes free of tracking and ability grouping?

___ 4. Are the needs of high- and low-achieving students (i.e., gifted and talented and special education) met within the regular class setting?

___ 5. Are all students required to take more than two years of math and science at the high school level?

Evaluation Procedures

___ 6. Are students assessed in a language in which they can best demonstrate their cognitive abilities and subject area knowledge?

___ 7. Have assessment instruments been analyzed for cultural, gender, or linguistic bias?

___ 8. Are Individualized Educational Programs (IEP) and other special education plans thoroughly reviewed at least once a year?

___ 9. Are open-ended questions, essay-writing, portfolios, and performance-based tests used in the evaluation process?

___ 10. Is the criteria for evaluating and grading students consistent throughout the school program?

___ 11. Do school staff members use special consultants to aid in assessing students with special needs (i.e., bilingual psychologists for bilingual students, etc.)?

Student Placement

___ 12. Are parents regularly informed and actively involved in the placement decisions that affect their children?

___ 13. Is the grouping of students for instructional purposes flexible, temporary, and intended to accelerate learning?

___ 14. Do parents and students have the option to accept, reject, or request a specific placement in a class or program?

___ 15. Do special education students exit special education programs on a regular basis to be mainstreamed?

___ 16. Are within-class groups heterogeneous in nature and reconstituted several times a year?

___ 17. Are students who have academic difficulties given the necessary support to avoid grade retention?

Curriculum and Instruction

___ 18. Are critical thinking, expository writing, and oral presentations an integral part of all student programs?

___ 19. Do all students have a chance to read and critique challenging and highly interesting material?

___ 20. Are cooperative learning techniques used with groups of students of all ages and supported in all classrooms?

___ 21. Is language instruction infused in all programs so that students for whom English is not their first language can thrive?

___ 22. Are various learning styles, such as verbal, musical, logical-mathematical, spatial, kinesthetic, and

inter-personal included and valued in most classroom activities?

___ 23. Is persistence taught, valued, and rewarded in all classes?

___ 24. Is small class size a goal at all levels of the school program?

Student Participation

___ 25. Are girls, students with low socio-economic status, minorities, physically disabled, and limited-English speaking students represented in leadership roles such as student council and student government?

___ 26. Are minority students and girls actively recruited to participate in extracurricular activities, including enrichment programs such as math club and science olympiad?

___ 27. Are curricular, co-curricular, and extra-curricular activities and programs monitored for proportionate involvement of girls and students of color?

___ 28. Is there an active recruitment and support program to get all students involved in intellectually challenging academic courses and programs?

Staff Expectations

___ 29. Do teachers really believe that all students can achieve social and academic excellence?

___ 30. Are there support groups to help students who lack the confidence to take certain courses?

___ 31. Do staff avoid using terms such as "bright students," "able learners," "college bound," "remedial," "lower track," and "L.D." to refer to specific groups of students?

___ 32. Have all staff received inservice training to facilitate working with diverse groups, using cooperative learning techniques, and matching teaching/learning styles?

Distribution of Resources

___ 33. Do all students regardless of gender, race, national origin, and disability have equal access to computers, graphing calculators and other forms of sophisticated equipment and technology?

___ 34. Are special programs and classes such as bilingual education and special education centrally located in the school building?

___ 35. Do girls' sports, bilingual and special education classes, and other programs targeted to girls and minorities have equal access to the most desirable facilities, schedule time, and other resources in the school?

___ 36. Are the most experienced and motivated teachers assigned to programs throughout the school regardless of the level of classes they teach or the sports they coach?

___ 37. Are African Americans, national-origin language minorities, and women fairly represented in all job classifications?

___ 38. Are adequate numbers of up-to-date, interesting textbooks and curricular materials purchased on an equitable basis for all students in all programs?

Final Results of School Experiences

___ 39. Are drop out rate data collected and analyzed annually by race/gender/ethnicity?

___ 40. Have students been followed after graduation to see what kinds of jobs and education they have pursued to determine the school's success in preparing students?

Scoring the Checklist:

1. Count the number of Y, S, N, and D answers separately.
2. Give the following value to the corresponding letter answers: Y=2; S=1; N=0.
3. Add the total number of points for Y, S and N answers. This is your score.
4. You should not have more than 8 D answers.

60-80 points *Fantastico!* Your school is a place where students feel they have equal status, equal access, and an equal chance to succeed. Recognize your successes, share them with others, and celebrate them. Continue to monitor, adjust and evaluate your practices to improve and maintain excellence and equity in your school. Keep up the good work!

30-59 points You are on the right track. Your school is either currently involved in de-tracking or the tracking practices are not as pervasive as in many other schools. Analyze the areas where you wrote "No" and begin to discuss ways to increase flexibility and access to your programs and practices. Encourage your staff to read and discuss the articles in this issue. Continuously assess your status and keep focused!

0-31 points You have much work to do. The practices in your school are probably sifting and sorting students based on a number of inequitable criteria. This can result in a lack of access and educational benefits for whole groups of students. Begin by encouraging your school staff to read and discuss the articles in this issue. Select one area which needs immediate attention and engage those who would be most affected in the change process. Once change is under way you can select another area to work on. Make sure that changes become institutionalized. Continue to monitor, adjust and evaluate your programs and practices. *Bonne chance et bon courage!*

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Special Education: A Changing System

by Judith Greenbaum, Project Associate

THE EDUCATION of the Handicapped Children Act (EHA), the federal law governing the education of all children with disabilities, went into effect in 1977. Through litigation and legislation, the nation's children with disabilities were finally given the right to a free, appropriate education within the public school system (several states had passed mandatory special education acts a few years before).

In the fifteen years since 1977 the number of children with disabilities educated in our nation's schools has grown to around 2 million, about 2 percent of the school age population. An extensive special education system now includes a continuum of services from separate schools for the most severely disabled students, to self-contained classes in schools housing regular education students, to resource rooms in these schools serving students who spend most of the day in regular education classes, to full-time inclusion in regular education for the most mildly involved students needing a minimum of extra help. Special education and related services such as transportation and physical therapy are supplied to each student, based on an Individualized Educational Plan (IEP). As a nation we are justifiably proud to be in the forefront of providing educational services to students with disabilities.

From its inception, EHA was concerned about the over-representation of African Americans and children whose home language was not English in special education classes. Although the law specifically stated that children could not be determined to be handicapped based on "environmental, cultural, or economic disadvantage" and that each child must be tested in the language of the home, these children continue to be over-referred to and over-represented in special education classes. This is true of males as well.

Separate Classes Don't Work

Although we may be proud of special education methodology and research, special education classes are, for all intents and purposes, low-level tracks. Students must go through an eligibility determination process which labels them as having one or more of seven legally determined handicapping conditions. These students are then partially or completely removed from regular education classes (in special education jargon, "pulled out") in order to receive more intensive help. This has meant, for example, that a child who has been determined to have a moderate or trainable level of retardation is taught life skills rather than academics. Separate classes for bright children who are blind or have physical disabilities proceed at a much slower pace than regular education classes, and these children fall behind their non-disabled age-mates in later grades and are unprepared for college entry both socially and academically.

The slow pace of special education classes stemmed from the low expectations all of us have had for these children. Work, college entry, marriage and family, and community involvement were not considered goals for most of them. We protected them from failure, frustration, risk, and challenge by placing them in separate tracks with others like themselves (Greer, 1991).

By 1985, the negative effects of special education labeling and tracking and the limited progress made by students in pull-out programs began to be reflected in the research literature. Like other lower-track students, special education students were found to suffer from low self-esteem. They had poor social skills, few friends, and were often teased by their age-mates. Their special education teachers often had low expectations of them and they dropped out of school at higher rates than their age-mates. Self-contained special education classes and even resource rooms were found to have very little benefit (Schulte, Osborne, and McKinney, 1990; Deno, Maruyama, Espin and Cohen, 1990). This was true of students with severe disabilities as well as students with mild disabilities. The special education system began an intense period of self-examination.

Research studies on students with severe disabilities (York, Vandercook, Macdonald, Heise-Neff, and Caughey, 1992) showed that integration into regular education classes helped these students increase their social competence, gain acceptance by other students, improve their language skills, and raise their teachers' expectations. For students with mild disabilities, studies showed similar results: higher self-esteem, less stigma, more friends, and higher teacher expectations, both academic and behavioral (Zigmund and Baker, 1990). These studies also showed that these mainstreamed students tend to like school more. In addition, almost all the research has shown that the regular education

students themselves felt that they too had benefited from having students with disabilities in their midst.

New Emphasis on Regular Education

In 1986, the Regular Education Initiative (REI), introduced by Madeleine Will of the Office of Special Education and Rehabilitative Services, U.S. Department of Education, called for rethinking services to students with disabilities. Will (1986) suggested merging special and regular education into a unified system and returning children with learning problems to the regular education classroom, with appropriate support. The resources of both special education and regular education would be merged to provide all students with the benefits of regular education programming with the individualized instruction some children need some of the time.

Several models of support to regular education teachers emerged: *consultation*, in which the special education teacher suggests methods, modifications, and materials to the regular education teacher to use with a specific student or students with a learning problem

> Special education classes are, for all intents and purposes, low-level tracks.

(Fuchs, Fuchs and Bahr, 1990; Phillips and McCullough, 1990); *team teaching*, in which both the special education teacher and the regular education teacher share the teaching load by both directing the class, monitoring instruction, and working with individual students; *direct service* in which the special education teacher (and/or Chapter I teacher) provides direct service to a particular student or students within the context of the regular classroom (Self, Benning, Marston and Magnusson,1991).

Additional support can be provided to the special education student through *peer tutoring* or buddy systems, strategies that pair disabled students with non-disabled students for either academics or social interaction. One of the most promising strategies is *cooperative learning* (Stevens and Slavin, 1991; Cooper and Speece, 1990), as described in this issue by Tasha Lebow. Other educational practices that enhance the integration of students with disabilities into the regular education classroom (Baker and Zigmond, 1990) are: *less reliance on large group instruction*, worksheets and workbooks; the incorporation of *a variety of teaching techniques and styles* to accommodate a wide range of student abilities and learning styles; and the utilization of *active learning tasks* to involve students in the learning process.

These models can prevent the referral of all but a few severely disabled students to special education programs (Pianta, 1990). As regular education teachers gain skill in serving a diverse population of students and as more special education support becomes available for students with learning problems in the regular classroom, teachers will begin to perceive the similarities between students with disabilities and the children they already serve. This perception will increase the range of what teachers consider "normal" and tolerable and will prevent the referral of children to special education. The regular education teacher's skill, style, attitudes, and beliefs seem to be the key to student success (Keogh, 1990).

Although special education tracking has little or no benefit to students with disabilities and the integration of these children into regular education classes is beneficial, teachers generally prefer the current educational practice of pulling students out of regular education classes for part or all of the day (Semmel, Abernathy, Butera and Lesar, 1991). If the status quo regarding special education tracking is to change, both regular and special education teachers will need to be retrained.

In addition, the merging of special education and regular education resources will require changes in the amount of time special education personnel are allowed to devote to serving children not deemed eligible for special education. Federal and state grants are currently available for innovative programs which merge these resources.

Lastly, it is clear that some severely involved children cannot be educated full time in a regular education class at this point in our history. Separate classes for these children for all or part of the day must be maintained. However, these classes must be moved out of separate schools into the local schools so that planned integration on a daily basis will allow the students some of the benefit of being in a regular education class.

It is interesting to look back on the litigation and legislation of the 1970s. Both the intent and the letter of the laws were in favor of maintaining the student with disabilities in the regular education classroom if at all possible. The need for removal of the child from the regular education classroom has always had to be carefully documented. Changing the current system of special education tracking will largely mean going back to the intent of the early advocates of mandatory special education services to children with disabilities. ❖

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Cooperative Learning: An Alternative to Tracking

by Tasha Lebow, Field Service Specialist

IT HAPPENS IN research laboratories, on engineering projects, at corporate board meetings, on sports playing fields and even at school board meetings. The team approach to problem solving is used in many adult arenas, when people with a wide range of abilities, perspectives, and skills join to address complex problems. Heterogeneous work groups capitalize on the diverse talents inherent in any group. No one would deny that this approach brings wide advantages to the process of collectively designing solutions to problems.

But what about academic classrooms, where traditionally students are separated on the basis of ability into distinct program tracks, or within classrooms into homogeneous work groups? Though mixed ability groups have always existed in schools, the concept of focusing instructional approaches to capitalize on diversity is considered a recent and controversial idea. Classroom diversity *can* be a positive attribute that enhances instruction. Cooperative learning presents an ideal process for realizing this goal.

The recent interest in cooperative learning merges well with the movement to reduce tracking. Teachers who employ cooperative learning techniques report encouraging success. They observe positive outcomes, related both to achievement and to managing diversity in the classroom—whether it is diversity in background, learning style, ability, interests, or work style. The cooperative learning model draws upon the natural resources of diversity in skills and experience common to all classrooms, but it is especially effective in classrooms with a wide variety of skills and abilities. By acknowledging and promoting the positive aspects of student-to-student interaction, teachers can help students work together in small, heterogeneous groups. The sharing, mutual support, and use of communication skills inherent to peer groups is exploited to the benefit of all.

While current research emphasizes that many cultures (and individuals within all groups) favor cooperative, collective approaches in problem solving and learning, most classroom activities require students to work independently, to compete for the highest scores and rewards. The traditional focus on individual achievement

Rose Craig, in Get It Together, *EQUALS-Lawrence Hall of Science, Univ. of California-Berkeley*

and competition fosters a climate of self-interest and distrust among students. Total reliance on traditional instruction prevents matching appropriate instructional approaches to the preferred learning styles of students. Recent research (Gilligan, 1976; Gilliland, 1988; Hale-Benson, 1986; Johnson and Johnson, 1975; Kagan, 1980, 1983; and Ramirez, 1974) indicates that many girls, American Indians, Latinos, and African Americans favor collective, non-competitive modes of instruction. Cooperative learning is an exceptional resource for diversifying instructional approaches as it harmonizes with the learning style preferences of many students.

Keys to Cooperative Learning

Cooperative learning provides a variety of effective techniques for managing students of mixed abilities working together as a team (Slavin et al., 1985). Their common characteristic is that students of varying ability or learning style work together as a team. They share accountability and responsibility for the success of the entire group, with the understanding that they will assist each other's learning as needed. Sharing a common goal (like accomplishment of a final task or production of a joint project), they move naturally from being facilitators of learning to being learners, and back again, as necessary to complete the final goal.

Cooperative learning techniques all possess the following key characteristics:

- **Shared Group Identity:** Group members are connected and cohesive in their relationship to each other, and they possess a distinct identity and a sense of unity.
- **Inclusiveness:** Each member is valued as an important component of the group. The diversity inherent in the group is recognized as a strength.
- **Group Values and Shared Authority:** The cooperative group exists with an understanding of equal standing and importance among the members. Though informal or formal leadership may occur, the nature of the shared task and intertwined responsibilities means that consensus is an operative factor.
- **Individual and Mutual Responsibility:** Though roles can vary from member to member within the group, everyone has equal responsibility to produce and is accountable to the group. The inter-connectedness of roles and tasks creates an internal network of support and incentive to complete assignments.
- **Group Rewards and Evaluation:** Formal recognition or reward is given to the group. Members may receive the same grade on a final project. The shared outcomes and accountability of group members motivate individuals to assist each other to achieve success. Intrinsic reward, however, is very individual and varies for each member because of the division of the tasks within the team, and because of the flexible roles of learner and facilitator of learning. Some applications award students two grades, one for the entire team and one for the individual's contribution.
- **Tangible, Practical Skill Development:** Group members focus on mastery or completion of concrete tasks. The group's goal may constitute application of abstract principles through accomplishment of practical and specific tasks. Because of the nature of group projects, each component of the goal is delineated in concrete terms, and each group member has responsibility for a specific, tangible piece of the whole.
- **Learner Exchange:** Because everyone has intrinsic value and skills that are important to the group's task, information and ideas are shared, and assistance and instruction are exchanged openly among group members. Team members supply their skills or knowledge and receive the support they need from other members to accomplish the task.
- **Interactive Environment:** Rather than having children work independently at their seats, cooperative learning structures the social environment to facilitate interaction between students.
- **Mutually Supportive Social Atmosphere:** Cooperative learning groups promote mutual respect and encouragement between members. Ideally, group members come to rely on and respect each other for the contributions they make, and they learn to appreciate each other for their diverse, individual skills and talents.

Flexible Learner and Teacher Roles

Cooperative learning is significantly more complex than moving students into groups that are expected to work together. Moving from homogeneous grouping to mixed

ability groups creates dynamic new relationships between teacher and student, and among students. Time spent redefining teacher and learner expectations can promote greater success for cooperative learning strategies.

Traditional instruction poses a hierarchy, with teacher as the holder of knowledge positioned over the entire class of uninitiated learners—some of whom will succeed and some of whom will not. In cooperative learning, each group works as a team so that all members succeed, and learning moves fluidly in all directions spontaneously. Members often assist each other to develop their understanding of the content. Their roles become highly dynamic. By teaching and assisting the learning of other group members, those who grasp the content quickly gain self-esteem and perfect their understanding of the materials.

The cooperative learning environment transforms the teacher's role. Teachers use standard instructional techniques to introduce key concepts, but once the class moves into small groups, the teacher's role changes. Observing group process and facilitating positive small group interaction become critical aspects of the teacher's role. Because group members teach each other, the teacher's role evolves into facilitating small group learning. Teachers report that discussing standard instructional techniques with students can help them create more effective groups. Since students will at times be teaching each other, knowing about techniques such as formulating leading questions, wait time, constructive feedback, and deciphering non-verbal cues can improve student-to-student interactions.

Making Up the Groups

Determining the composition of the specific groups becomes critical to the success of the experience. Wise teachers make group assignments that ensure each group has a wide variety of skills and attributes among its members. It helps to maintain fairly short-term group assignments and to shuffle group assignments with the onset of each major project. This gives students the opportunity to provide different skills and input in each new group and avoids the pitfall of group members' becoming stuck in previous role assignments.

The most effective group projects are complex tasks requiring a wide range of skills and abilities to complete successfully. For example, the best assignments require people to assume varied roles such as researcher, artist, writer, measurer, model builder, and presenter. This guarantees that every group member has the opportunity to practice existing strengths and to build skills in new areas. Open-ended assignments that foster diverse problem solving skills are most effective, though there are cooperative techniques that work with drill and practice or computation skills (Slavin, 1983, 1987).

Students who are academically successful and accustomed to the traditional approach of individual work and accountability may at first be suspicious of working together toward a collective goal. But students adapt quickly and appreciate the benefits of cooperative learning, given the proper support. Their skills in collaboration may first need development and a sufficient level of trust among classmates must be established before such efforts are successful. It helps to begin with less complex academic tasks to develop social skills within groups before moving to more complex academic tasks. Appropriate supports and rewards for both group and individual successes reinforce the importance of developing group social skills. There are some excellent resources and activities for promoting a supportive classroom climate as a foundation for successful cooperative learning such as *TRIBES* (Gibbs, 1987).

For cooperative learning to contribute most to the social interactions of students, issues of status within small groups must be considered.

Students who need more time to master a specific skill receive the benefits of multiple instructional supports and approaches from group members. They tend not to feel they are left to their own fate (which magnifies feelings of failure), but instead they feel supported by the team members who assist their efforts until the task is successfully completed. Their confidence and perseverance are bolstered through the climate of mutual support.

For cooperative learning to contribute most to the social interactions of students, issues of status within small groups must be considered. When the status quo relationship between high-status students and low-status students is maintained in small groups, the experience of cooperative group work will only reinforce traditional prejudices and biases. But when group members have equal status, or when traditionally low-status students perform in leadership roles (such as an opportunity to be "experts" for the group), stereotypes begin to crumble. This can be accomplished through thoughtfully structuring the tasks, roles, or information within group assignments.

Wide-Ranging Benefits

Cooperative learning promotes active learning, resourcefulness, and natural inquisitiveness, especially when students are involved in determining the content and designing curricular approaches. Learning moves in two directions because of the responsibility students have to assist and promote competencies in their teammates. Students gain profound benefits from instructing each other. Learning becomes a process, not just a product or inborn gift (often the misconstrued message of traditional approaches).

Cooperative learning demonstrates the value of multiple problem-solving approaches. When the pool of solutions or perspectives related to any problem is enlarged by multiple players, everyone gains. Appreciating that problems related to life or school can be solved in numerous ways is a lesson in the value of diversity.

Students become as excited about assisting a team member as about demonstrating their own proficiency. Their role becomes more diverse and dynamic, which adds definite social rewards to the educational process. Their relationship with the teacher becomes less threatening and more supportive, for the boundaries between their roles are more flexible. Even the teacher becomes an active learner in the cooperative learning classroom.

Social benefits include reaffirming that all students have unique talents to contribute to the collective. Cooperative learning promotes trust among peers of diverse backgrounds and abilities. Students gain positive experience in cooperating within a team and see firsthand the power of sharing their diverse resources. Whether they find themselves on a sports team, a professional work group, or a decision-making team, they will draw on the valuable skills learned in their cooperative classroom. ❖

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Untracking High School Mathematics

by Eleanor Linn, Associate Director for Gender Equity

IN THE "tracked" schools of America, algebra acts as a switching station. Students who learn algebra early typically get switched onto the fast track that prepares students for college and, in the long run, good jobs. Students who don't learn algebra early get switched onto the slower vocational or general track. In today's high-tech economy, those tracks lead mainly to low-level jobs and sometimes to no job at all. And they are loaded with African Americans and Latinos (Klonsky, 1990).

For Robert Moses, a civil rights leader in the 1960s, that set of math facts makes success at mathematics a civil right. His Algebra Project calls for greater public awareness of the issue, particularly in the African-American and Hispanic communities. It also calls for better student preparation at the elementary and middle school level. For Moses and many equity advocates, success at upper-track high school mathematics is the key to further education and a necessary preparation for life.

At the same time as many equity advocates are calling for untracking high school algebra, the

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National Council of Teachers of Mathematics is questioning the general utility of algebra and is calling for an integrated high school mathematics curriculum. This new curriculum includes aspects of algebra, geometry, trigonometry, probability, statistics, number theory, and discrete mathematics.

"The typical U.S. mathematics curriculum," says Thomas Romberg of the University of Wisconsin-Madison, "consists of eight years of 15th century (European) arithmetic, followed by one year of 17th century (Arabic) algebra, followed by one year of 3rd century B.C. (Greek) geometry" (Romberg, 1991). Half of what we know in the field of mathematics has been discovered in the past fifty years. Schools need to broaden the scope of what we teach young people. It needs to be enlivened and more culturally relevant to young people's lives.

If we look back, there was a legitimate purpose for teaching students algebra. It was supposed to provide them with a thinking tool that could help with solving problems. Algebra is a way to generalize the processes of arithmetic. It is also a way to abstract relationships, find unknowns, and make predictions. For a few students, algebra introduces concepts that will be important when they learn calculus, a branch of mathematics that is used for solving problems in physics and engineering.

The problem is that algebra has become a major gatekeeper for educational and career success and its gatekeeping role has far outweighed its mathematical utility. The problem, then, is not how to teach more children algebra. The problem is how to develop a useful and engaging curriculum that helps students generalize, make abstractions and predictions, and have confidence in their own problem-solving ability.

Fortunately, changes in technology, instructional practices, and student assessment methods do make it possible for us to develop a rich, complex, and untracked high school mathematics program. Numerous teachers are making the necessary changes. The following recommendations are taken from interviews with a dozen inspiring high school mathematics teachers who are working toward an integrated mathematics curriculum for all students.

Technology

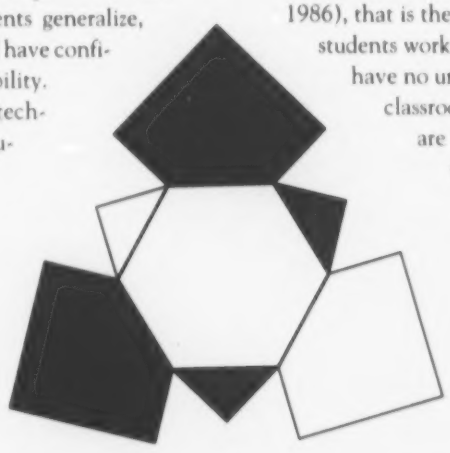
Computers and graphing calculators have made it unnecessary for students to spend long hours learning how to factor polynomials. Although the concept of a function and a factor may still be important for students to learn, a machine can readily produce the correct answer. Another click of a button and the machine draws a graph, solves an equation, finds the slope, produces the inverse, or calculates the tangent. Many teachers who use graphing calculators notice that as students work on the problems posed in class, they explore the interconnected aspects of what was previously presented in isolation as concepts in algebra, geometry, and trigonometry.

Prerequisites

Since calculators are now common, success at college preparatory mathematics is no longer tied to students' ability to have instant recall of multiplication tables. Speedy computation was necessary for students to learn to factor easily, and it was the ostensible reason for deficient students remaining in general math until their computational skills were stronger. Unfortunately, the boring and repetitive drill that permeates most general math classes and the stigma attached to being in these classes keeps most students assigned to them from ever having exposure to more stimulating mathematics.

Instructional Strategies

Years of research on equitable instruction and on power relations in the classroom have led many educators to understand the need for complex instruction (Cohen, 1986), that is the use of cooperative groups of students working on large, complex problems that have no unique solution. In traditional classrooms, students who talk the most and are the best readers are the students who learn the most. They are also most highly valued by their peers. To counteract this effect, the teacher in a class using complex instruction may tell students that a myriad of skills are crucial to solving the problem at hand: accurate measurement, drawing models to scale, hypothesizing, analyzing, visualizing in three dimensions, thinking analogously,



Fold this shape into a solid figure. It will make one half of a cube. It takes two of them to make a whole cube. How many other shapes can you and your team-mates draw that can also be folded into cubes?

Drawing by Thomas F. Banchoff, in **On the Shoulders of Giants**, *National Academy Press, Washington, DC*

reading, writing, observing carefully, taking risks, categorizing, persisting, and using reference material. Since no one student is highly skilled in all of these areas, students will need to rely on each other to devise successful strategies. And group success will be measured by how many different ways a group can solve the problem.

Low-status students are often highly capable in skill areas that high-status students lack. A classroom that uses complex instruction is thus more likely to have low-status students included in the intellectual work of the classroom. They are more likely to be respected by high-status students for their contributions, more likely to value their own ability to learn, and more likely to gain needed academic skills themselves.

Successful integrated high school mathematics programs also teach students how to cooperate, how to resolve conflict, and how to monitor their group process. At first students may be hesitant to present their ideas to each other, to suggest alternative solutions, or to confront each other for not incorporating promising ideas, but when class assignments are truly challenging and everyone's contribution is truly needed, students quickly learn how crucial it is to talk and share.

Assessment

When student success is measured by pitting students against each other, there are sure to be winners and losers. By contrast, an untracked high school mathematics class measures students by specific skill-related standards and compares them only to themselves over time. This can be accomplished by using open-ended questions, portfolios, student writing assignments, or student prepared questions. The choice depends a great deal on the school and the pressures placed upon it by outside authorities. Some students continue to use time-consuming problem-solving strategies for what appears to be a long time. Still, if they understand the strategy that they are using, they will have confidence in their problem-solving ability. Their choice of problem-solving method should be respected. A high school mathematics program that assesses students by using only multiple-choice, timed algebra factoring problems, corrected by machine and reported by percentile, is dooming many of its students to failure.

Staff Development

Few people are currently experts in teaching untracked high school mathematics. Such courses are new and all of us have habits that run deep. Whether the change to untracked math is mandated from the school board, sought after by teachers, or advocated for by the community makes a big difference in its reception and its subsequent success. Team teaching and teacher shared decision-making have been important aspects of several successful untracking initiatives. Linkages to universities and industry have characterized others. Several of the high schools that have untracked high school mathematics are part of the Coalition of Essential Schools led by Ted Sizer of Brown University. Others are part of the Interactive Mathematics Project at the Lawrence Hall of Science in Berkeley, California. For still other schools, untracking mathematics is part of their school improvement plan.

All the teachers I spoke to stressed the importance of their learning how to operationalize something that they very much believe in. All were committed to each student's confidence and success in mathematics. Their questions were about how to make their goal a reality. In untracking high school mathematics, such positive teacher attitudes are essential for success.

Public Information

Not everyone shares the goals of untracked mathematics. Several educators spoke of the conflict that untracking math unleashed in their school. Particular opposition came from parents who wanted to see their children in Advanced Placement calculus and who thought that an untracked mathematics class would hold their children back. According to our informants, it had taken three or four years of a program's success for their group of powerful and privileged parents to see for themselves how positive the program is for their children and for everyone else. Experienced "untrackers" advised new-comers to do two things: keep plenty of data, and make sure that everyone knows about the program.

"Algebra I, as traditionally taught, is very boring," said one of the math teachers in an article in the school newspaper. "This [untracked mathematics], however, is good, relevant math. The fact that sophisticated topics are being presented to ninth graders is very exciting from a teacher's point of view." Or, as one of the students in a college preparatory mathematics class said,

> "[Tracking] is like separating the good from the bad and not making the bad any better. I got a D in the lower-track class because it was so boring. In this class I got a B. . . I have the most fun when I'm in the most diverse class. I meet new people and people are more supportive. Higher-track teachers look after you and give you more encouragement. They ask questions. . . Grades are not so important. It's good to feel good about yourself, to feel you really understand it, not that you just memorized it." ❖

Resources and References on next page

Resources and References

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Thanks to: Ed Anderson, Minneapolis; Diana Porter, Cincinnati; Sherry Dedmon, Hixson, TN; Betty Foxx, Chicago; Sonja Bailey, New York City; Jean Klanica, Aurora, CO; Fred Rectanus, Portland, OR; Mary Ann Sample, San Antonio; Linda Nathan, Boston; Lynne Alper and Sherry Fraser, Berkeley, CA; Chuck Bowen, Pekin IL.

Tracks and Resources: Separate and Unequal

by Ted Wilson, Editor and Research Associate

THE BATTLE against tracking can be viewed as an extension of the long struggle to end racial segregation in American schools. In that struggle, NAACP lawyers compared programs and expenditures in segregating states and showed that "green follows white," i.e., money for schooling follows white students (Minow, 1991). The promise of *Brown v. Board of Education* (1954) was that equal resources would be provided to all students, but many schools misuse grouping and tracking to funnel more resources to advantaged children.

Ability groups and tracked classrooms often segregate students not only by race but also by national origin, gender, and social class; and those in the low track get fewer resources (Gamoran and Mare, 1989; Lee and Bryk, 1988). Perhaps demanding equal resources can be a useful tactic in the overall strategy to eliminate ability grouping and tracking in schools.

Unequal Resources

Jeannie Oakes, a prominent critic of tracking, believes that unequal resources are the flaw in tracking schemes:

> For all students, the grouping is less critical than the quality of instruction. In other words, it is the differential distribution of benefits by ability group or track rather than the placement itself that makes the high track more desirable than the low track (1988a, p. 43).

So do Braddock and McPartland (1990):

> Arguments against tracking usually emphasize that separate, tracked classes receive unequal shares of the key formal and informal aspects of a good learning environment.

Tangible resources, such as facilities, can be measured by the dollars expended per pupil. Intangible resources, such as a teacher's tone of voice, are more difficult to measure, but they can make a big difference in the experiences students have in the classroom.

Tangible resources are *necessary* for student learning to occur, but they are not *sufficient* (Murnane, 1991). The informal aspects of a good learning environment must also be present, and grouping and tracking often lead to unequal access for some students to these informal aspects of schooling (Gamoran, 1989). It may be hard to allocate intangible resources equally across upper- and lower-track classes, but schools have no excuse for not allocating tangible resources equally across tracks.

Facilities: According to Jeannie Oakes (1988b), differences in facilities such as the books, materials, and equipment used to aid student learning are among the factors contributing to unequal outcomes for students with a different race, class, or family heritage.

Flora Ida Ortiz (1988) found many such differences when she compared the elementary school experiences of Hispanic and non-Hispanic children in separate, bilingual classes and those in mixed, traditional classes in California. Bilingual classes were commonly held in portable buildings or at the greatest possible distance from the administrative offices and public entrances. If identical to other classrooms in size, shape, and general structure, bilingual classrooms differed in the equipment they contained and the maintenance care they received. Because they were federally supported, bilingual

classes sometimes had audio-visual aids, but they tended to lack the textbooks, workbooks, and computers present in regular classrooms.

On the other hand, attractive facilities and equipment can sometimes lure students into vocational classes that are ultimately to their detriment. Rosenbaum (1976) found that the business track in one working class high school enrolled mainly girls. The typewriters were new and well maintained, and the rigor of the business track was well respected in the community where female graduates readily found jobs. Rosenbaum concluded, however, that the business track in this school encouraged many females to prepare for inappropriate, dead-end jobs.

Rosenbaum's findings agree with scholars who say that it is not so much changes in tangible resource levels as changes in the behavior of students, teachers, and principals that improve student achievement (Murnane, 1991; Purkey and Smith, 1983). Gamoran (1988) argues that the tangible, measurable resources of the learning environment, such as school laboratories, books in the school library, school average teacher verbal ability, etc., have less effect on student achievement than whether students and teachers actually *use* these resources.

Curriculum and Instruction: Gamoran (1990) also found that 25 percent of track-related learning differences were attributable to differences in curriculum and instruction. Goodlad (1984) found such differences in the curriculum of high-, average-, and low-track secondary school classes. High-track English classes read literary classics, and low-track classes did basic reading and listening. High-track math classes studied ideas, concepts, and mathematical models while low-track classes did basic computational and consumer mathematics. Goodlad also found differences in instruction. High-track teachers encouraged independent thinking while low-track teachers sought conforming behaviors. High-track students saw teachers as caring, but low-track students saw teachers as less encouraging and punitive.

Similarly, Oakes (1985, 1990) found that high-track students had the most time to learn; their teachers were clearer, more enthusiastic, and used less strong criticism; the learning tasks appeared to be better organized, of greater variety, and more likely to engage students in active learning; and high-track teachers assigned more homework. In contrast, lower-track classes were more often characterized by dull, passive instruction consisting largely of drill and practice with trivial bits of information. In mathematics and science, low-track teachers spent more time on routines, seat work, and worksheets activities. If computers were used, it was for low-level tasks such as drill and practice.

Oakes, Gamoran, and Page (1992) reported that students in lower-track classes have often been stigmatized by a school-wide attitude that they are not capable learners. When such negative images are shared by lower-track teachers and their students, certain instructional consequences follow: fewer curriculum units are covered, the pace of instruction is slower, fewer demands are made for learning higher-order skills, and test and homework requirements are taken less seriously.

Teachers: Oakes (1990) found significant discrepancies among teachers assigned to various classes in secondary schools. McPartland and Crain (1987) found that some principals used class assignment as a reward for teachers who were more powerful or more successful and as a sanction against teachers who were judged weaker. Lower-track classrooms were assigned to the least experienced and lowest paid teachers, even though students with the greatest needs may be the most challenging to teach. Some districts and schools, by allowing their most senior teachers to choose the tracks they wish to teach, have created weaker learning environments for students with the greatest need (Braddock & McPartland, 1990).

> Schools have no excuse for not allocating tangible resources equally across tracks.

Classroom Experiences: Attendance and tardiness in low-track classes result in less instructional time. Students in low-track classes are less likely to have homework and spend less time doing homework when they have it. Fewer low-track students believe that their class is well organized and that their classmates are interested in learning. Forty percent of low-track students say failing the class would not bother them, and 29 percent say their classmates are hard to control (Poupard-Tice, 1988).

Peer relations in high-track classes are more positive, more cooperative, and there is less arguing, yelling, fighting, and teasing. Students in low-track classes are more competitive, alienated, defeated, and hostile, and don't care if they fail. High-track students have higher aspirations and higher academic and general self-esteem, while low-track students express low self-concepts and expectations for the future (Goodlad, 1984).

Teachers seem to establish more supportive relationships with students in high-track classes whereas

relationships in low-track classes tend more towards control. Low-track classes see greater student disruption, hostility, and alienation (Oakes, 1985).

High-track and low-track classrooms are different worlds, and the differences in classroom climate are dramatic. Words like "hostility," "cajoled," "discipline," and "conflicts" characterize the low-track teachers' descriptions, while "positive," "friendly," and "relaxed" are terms high-track teachers use (Poupard-Tice, 1988).

The Politics of Resource Allocation

The tangible and intangible resources available to public schools are distributed by a political process:

> The final budget represents a series of compromises among various segments of the community and within the school district organization as well. It requires negotiations and trade-offs among various groups concerned with education—all of whom believe strongly in their programs and positions. Analysis and research evidence can be utilized during the process, but they are frequently used to make partisan points (Hartman, 1988, p. 107).

Jeannie Oakes agrees:

> Tracking becomes part and parcel of the struggle among individuals and groups for comparative advantage in the distribution of school resources, opportunities, and credentials that have exchange value in the larger society. This political dimension often encompasses highly charged issues of race and social-class stratification (1992, p. 13).

Support for High-Track Classes: The outcome of the political process often favors the advocates for high-track classes. Middle-class parents with confidence, status, and discretionary time can petition the school board or their school principal for special programs for their children with some chance of success. If these parents don't get their way, they may take revenge at the next school millage election or even run for the board themselves. Hence, board members must weigh not only the merit of such petitions but the political consequences of denying them (DeLaney, 1991).

For example, Poupard-Tice (1988) describes her district's participatory detracking process that sought consensus among Ann Arbor parents on which classes to eliminate. The lower two math courses in ninth and tenth grade were replaced by "Integrated Math," class size was reduced to 18, and personnel were provided for a math support lab beyond the regular class time. Similar changes were made in the English curriculum, but the task force was unsuccessful in budging middle-class parents from their support for advanced placement classes (p. 17).

In his intensive study of four California high schools, Brian DeLaney (1991) also found strong support for high-track classes. As the number of students who needed English as a second language classes increased, it became harder and harder to justify offering under-enrolled advanced science and math classes. Because of fixed teacher allocations, as enrollments in advanced courses fell to 10 or 15, enrollments in other courses crept toward 35 or 40.

> Nevertheless, given the significant symbolic and political value of offering such courses as chemistry, math analysis, or calculus, advanced courses continued to be included in the course menu, even when enrollments might not justify it. With the inclusion of advanced courses the school retained a degree of legitimacy with an important part of the community (p. 190).

Support for Students at Risk: Occasionally, students who need help find a champion. In Princeton, New Jersey, a group of minority and immigrant parents formed the Robeson Group, named for the black singer and civil rights worker Paul Robeson, one of Princeton's most celebrated native sons. They charged that middle-class parents and the school administration stressed the role of the high school as the route to the best colleges and that they were obsessed with Ivy League college admissions. The group pressed for more emphasis on helping their children develop basic skills in the early grades, when they showed the greatest promise.

The Robeson Group succeeded in electing three of its members to the nine-member school board, and they initiated a survey of student achievement. The study found that educational outcomes for African-American and Hispanic students were below those of their white and Asian counterparts. Black and Hispanic students participated less frequently in advanced and honors courses and were over-represented in remedial classes. The Robeson Group asked the board to use the

Marilyn Nolt, Souderton, PA

resources of its affluent population and a large university to rectify this problem.

Rosalind Frisch, a former Princeton school board member and a member of the Robeson Group said,

> We have always had our National Merit Scholar kids, and we always will, but they are not the ones we should hang our hats on. We should help the ones who need help, and when we've done that, then we can be proud. They are the ones we can hang our hats on (Peterson, 1992, p. A8).

Reallocating Resources: Oakes (1992) says redistributing resources should be the goal of detracking.

> Just as the technical aspects of tracking include an uneven distribution of school resources favoring students in the highest tracks, a technology of detracking will require a more even distribution of resources among students (p. 17).

Some educators seek to accomplish this goal by making tracking more fair. Braddock and McPartland (1990) report that advocates of reform such as the Children's Defense Fund, the Carnegie Council on Adolescent Development, and Ernest L. Boyer list tracking on their agendas for change but call for 'modifications' in tracking rather than its outright elimination. If so-called ability groups and tracks are to be modified rather than eliminated, it is important to pay careful attention to the allocation of tangible and intangible resources across groups and tracks.

However, demanding a fairer allocation of resources should be only an interim tactic, as it was for Thurgood Marshall and the NAACP in their struggle to desegregate schools (Kruger, 1977). The anonymous authors of a comprehensive *Harvard Law Review* article put it well: "Effective schooling should recognize and address differences between students without imprinting labels on their minds and bodies. The clearest alternative to tracking students is to teach them in heterogeneous classrooms" (*HLR*, 1989, p. 1334). The ultimate goal should be classrooms in which all children, whatever their social class, race, national origin, or gender, sit side by side and learn together successfully. ❖

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Recommended Resources on Untracking Schools

by Eleanor Linn and Ted Wilson

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Publications Available

Books and Booklets:

- ❑ *America's Hispanic Heritage* ($3.00)
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- ❑ Equity and Educational Finance
- ❑ School Closings and Equity
- ❑ Student Discipline and Desegregation
- ❑ The Challenge of At-Risk Students
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- ❑ Promoting Flexibility in Male Roles
- ❑ The History of American Women and Work
- ❑ Women in Literature: Historical Images of Work
- ❑ Fostering Sex Equity in Math
- ❑ Sex Equity and Vocational Education
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